AMENDMENT TO THE CLAIMS:

Please amend claim 41 as follows:

Claims 1-38 (canceled)

Claim 39 (previously presented): An optical instrument employing a wavefront sensor capable of coarse and fine phase measurement capabilities during first and second modes of operation, respectively, said wavefront sensor comprising:

optical elements for spatially sampling incident light and forming a dispersed spot with a fringe pattern corresponding to samples of the incident light;

an imaging device for capturing an image of the dispersed spot with said fringe pattern formed by said optical elements; and

an image processor for analyzing the spatial frequency of the fringe pattern of a given dispersed spot to derive, without ambiguity, a measure of local phase distortion in the corresponding sample of incident light;

wherein, during said first mode of operation, the measured phase distortion is relatively large, and provides a coarse measure of phase distortion measurement without ambiguity; and

wherein during said second mode of operation, the measured phase distortion is relatively small, and provides a finer measure of phase distortion measurement without ambiguity.

Claim 40 (previously presented): The optical instrument of claim 39, wherein, during said first mode of operation, the measured phase distortion is greater than 1/2 wave, and provides a coarse measure of phase distortion without ambiguity; and

wherein during said second mode of operation, the measured phase distortion is less than 1/2 wave, and provides a finer measure of phase distortion.

Claim 41 (currently amended): The optical instrument of claim 39, wherein during said first mode of operation, slices of the image of the fringe pattern are taken along the direction of dispersion, and are analyzed to produce an estimate of the phase ~~error~~ distortion (i.e. phase error), and wherein said estimate is used to correct the phase error until the size of the step is reduced below 1/2 wave; and whereupon said second mode of operation is engaged, and slices of

the image of the fringe pattern are taken perpendicular to the direction of dispersion, and are analyzed to produce an estimate of the phase error with greater accuracy, and wherein said estimate is used to further correct the phase error.

Claim 42 (previously presented): The optical instrument of claim 39, wherein said optical elements comprise a transmission grating and lens array.

Claim 43 (previously presented): The optical instrument of claim 39, wherein said optical elements comprise a refractive element.